



SEQUENCE LISTING

<110> YUAN, Chong-Sheng

<120> DETERMINATION OF IONS USING
ION-SENSITIVE ENZYMES

<130> 466992001100

<140> US 10/665,883

<141> 2003-09-19

<160> 18

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> 40%-100% identity to leader sequence

<400> 1

Met Gly Gly Ser Gly Asp Asp Asp Asp Leu Ala Leu
1 5 10

<210> 2

<211> 356

<212> PRT

<213> Artificial Sequence

<220>

<223> 40%-100% identity to the biphosphate nucleotidase

<400> 2

Ala Leu Glu Arg Glu Leu Leu Val Ala Thr Gln Ala Val Arg Lys Ala
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Ser Leu Leu Thr Lys Arg Ile Gln Ser Glu Val Ile Ser His Lys Asp
20 25 30
Ser Thr Thr Ile Thr Lys Asn Asp Asn Ser Pro Val Thr Thr Gly Asp
35 40 45
Tyr Ala Ala Gln Thr Ile Ile Ile Asn Ala Ile Lys Ser Asn Phe Pro
50 55 60
Asp Asp Lys Val Val Gly Glu Glu Ser Ser Ser Gly Leu Ser Asp Ala
65 70 75 80
Phe Val Ser Gly Ile Leu Asn Glu Ile Lys Ala Asn Asp Glu Val Tyr
85 90 95
Asn Lys Asn Tyr Lys Lys Asp Asp Phe Leu Phe Thr Asn Asp Gln Phe
100 105 110
Pro Leu Lys Ser Leu Glu Asp Val Arg Gln Ile Ile Asp Phe Gly Asn
115 120 125
Tyr Glu Gly Gly Arg Lys Gly Arg Phe Trp Cys Leu Asp Pro Ile Asp
130 135 140
Gly Thr Lys Gly Phe Leu Arg Gly Glu Gln Phe Ala Val Cys Leu Ala
145 150 155 160
Leu Ile Val Asp Gly Val Val Gln Leu Gly Cys Ile Gly Cys Pro Asn
165 170 175
Leu Val Leu Ser Ser Tyr Gly Ala Gln Asp Leu Lys Gly His Glu Ser
180 185 190
Phe Gly Tyr Ile Phe Arg Ala Val Arg Gly Leu Gly Ala Phe Tyr Ser

Tyr Glu Gly Gly Arg Lys Gly Arg Phe Trp Cys Leu Asp Pro Ile Asp
 130 135 140
 Gly Thr Lys Gly Phe Leu Arg Gly Glu Gln Phe Ala Val Cys Leu Ala
 145 150 155 160
 Leu Ile Val Asp Gly Val Val Gln Leu Gly Cys Ile Gly Cys Pro Asn
 165 170 175
 Leu Val Leu Ser Ser Tyr Gly Ala Gln Asp Leu Lys Gly His Glu Ser
 180 185 190
 Phe Gly Tyr Ile Phe Arg Ala Val Arg Gly Leu Gly Ala Phe Tyr Ser
 195 200 205
 Pro Ser Ser Asp Ala Glu Ser Trp Thr Lys Ile His Val Arg His Leu
 210 215 220
 Lys Asp Thr Lys Asp Met Ile Thr Leu Glu Gly Val Glu Lys Gly His
 225 230 235 240
 Ser Ser His Asp Glu Gln Thr Ala Ile Lys Asn Lys Leu Asn Ile Ser
 245 250 255
 Lys Ser Leu His Leu Asp Ser Gln Ala Lys Tyr Cys Leu Leu Ala Leu
 260 265 270
 Gly Leu Ala Asp Val Tyr Leu Arg Leu Pro Ile Lys Leu Ser Tyr Gln
 275 280 285
 Glu Lys Ile Trp Asp His Ala Ala Gly Asn Val Ile Val His Glu Ala
 290 295 300
 Gly Gly Ile His Thr Asp Ala Met Glu Asp Val Pro Leu Asp Phe Gly
 305 310 315 320
 Asn Gly Arg Thr Leu Ala Thr Lys Gly Val Ile Ala Ser Ser Gly Pro
 325 330 335
 Arg Glu Leu His Asp Leu Val Val Ser Thr Ser Cys Asp Val Ile Gln
 340 345 350
 Ser Arg Asn Ala
 355

<210> 5

<211> 1176

<212> DNA

<213> Artificial Sequence

<220>

<223> Nucleotide sequence encoding a chimeric protein

<400> 5

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 tctcacaagg actccactac tattaccaag aatgataatt ctccagtaac cacaggtgat 180
 tatgctgcac aaacgatcat cataaatgct atcaagagca attttcctga tgataaggta 240
 gttggtgaag aatctcctac aggattgagc gacgcattcg tctcaggaat tttaaacgaa 300
 ataaaagcca atgacgaagt ttataacaag aattataaaa aggatgattt tctgtttaca 360
 aacgatcagt ttccgctaaa atctttggag gacgtcaggc aaatcatcga tttcggcaat 420
 tacgaagggtg gtagaaaagg aagatttttg tgtttggatc ctattgacgg aaccaagggg 480
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 ggccatgagt catttggtta tatctttcgt gctgttagag gtttaggtgc cttctattct 660
 ccattctcag atgcagagtc atggaccaa atccacgta gacacttaaa agacactaaa 720
 gacatgatta ctttagaggg agttgaaaag ggacactcct ctcatgatga acaaactgct 780
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 gaaaagatct gggaccatgc tgcaggcaac gttattgtcc atgaagctgg aggtatccat 960
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<211> 7

<212> PRT
<213> Artificial Sequence

<220>
<223> Exemplary epitope tag

<400> 6
Asp Tyr Lys Asp Asp Asp Lys
1 5

<210> 7
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<212> PRT
<213> Artificial Sequence

<220>
<223> Exemplary epitope tag

<400> 7
Tyr Pro Tyr Asp Val Pro Asp Tyr Ala
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<211> 11
<212> PRT
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<400> 8
Cys Gln Asp Leu Pro Gly Asn Asp Asn Ser Thr
1 5 10

<210> 9
<211> 10
<212> PRT
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<220>
<223> Exemplary epitope tag

<400> 9
Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu
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<210> 10
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
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<400> 10
His His His His His His
1 5

<210> 11

<211> 6
<212> PRT
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<400> 11
Asp Thr Tyr Arg Tyr Ile
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<210> 12
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<212> PRT
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<400> 12
Glu Tyr Met Pro Met Glu
1 5

<210> 13
<211> 11
<212> PRT
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<223> Exemplary epitope tag

<400> 13
Ala Ser Met Thr Gly Gly Gln Gln Met Gly Arg
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<210> 14
<211> 10
<212> PRT
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<400> 14
Ser Phe Pro Gln Phe Lys Pro Gln Glu Ile
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<210> 15
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
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<400> 15
Lys Gly Phe Ser Tyr Phe Gly Glu Asp Leu Met Pro
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<210> 16
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Exemplary epitope tag

<400> 16
Gln Tyr Pro Ala Leu Thr
1 5

<210> 17
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
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<400> 17
Gln Arg Gln Tyr Gly Asp Val Phe Lys Gly Asp
1 5 10

<210> 18
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Exemplary epitope tag

<400> 18
Glu Val His Thr Asn Gln Asp Pro Leu Asp
1 5 10